

**NATIONAL INSTITUTES OF HEALTH
US DEPARTMENT OF HEALTH AND HUMAN SERVICES**

**NIH LOAN REPAYMENT PROGRAMS
IC RECOMMENDATION FOR LRP FUNDING**

General Instructions for Loan Repayment Program Coordinators (LRPC)

Please forward the complete package to National Institutes of Health Loan Repayment Programs, 2 Center Drive, Building 2, Room 2E28, MSC 0230, Bethesda, Maryland 20892-0230. Incomplete applications will be returned to the LRPC. For FY02, renewal applications are due May 1 and new applications are due July 1. If you have any questions about completing this form call the Loan Repayment Program at 301-402-6550.

SECTION 1 – APPLICANT INFORMATION

Applicant's Name	Chad A Womack	Title	research fellow
SSN	193-56-7310	Pay Plan/ Occupational Series	AD
IC	National Institute of Allergy and Infectious Diseases (NIAID)	Grade (If Appropriate)	
LRP Program	AIDS Research LRP	NIH SALARY at Program Eligibility Date	\$43,200.00
		Type of Assignment	Temporary
Contract Length	Renewal (1 Year)	End Date of Temporary Assignment from SF52/SF50	6/5/2002

SECTION 2 –IC RECOMMENDATIONS AND CONCURRENCE

Initiating Official (Advisor/Supervisor)		Lab/Branch Chief	
Name	Barney S. Graham	Name	
			(Please Print)
Title	Senior Investigator		
SIGNATURE:		SIGNATURE:	
DATE:		DATE:	
Program Director (Intramural Scientific Director)		Personnel Officer	
Name:	Dr. Thomas Kindt	Name:	
			(Please Print)
SIGNATURE:		SIGNATURE:	
DATE:		DATE:	
IC Loan Repayment Coordinator (LRPC)		IC Director	
Name:	Roger Pellis	Name:	Dr. Anthony Fauci
SIGNATURE:		SIGNATURE:	
DATE:		DATE:	

Special Instructions for Loan Repayment Coordinators (LRPC) and Personnel Officials

- ICs must extend employment offers for 2 years for the AIDS and Clinical LRP or 3 years for the General Research LRP. The LRP contract commences once the program eligibility date which is the receipt date of an application in the LRP office or the OED date for new hires, whichever occurs later.
- Basic NIH salary entered in Section 2 is as of the applicant's program eligibility date. For applicants employed under the Commissioned Corps, salary comprises base pay plus quarters, subsistence, and variable housing allowances. Special and bonus pay, such as board-certified, contract, and variable incentive pay, are not included. Similarly, for applicants under the General Schedule pay plan, Physicians Comparability Allowances (PCA) are not included in the salary calculation. However, pursuant to 5 CFR § 595.105(e), an individual receiving a PCA who is accepted into the LRP must have his/her PCA reduced by the amount of the loan repayment upon entry to the LRP.

NATIONAL INSTITUTES OF HEALTH LOAN REPAYMENT PROGRAMS
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

ONLINE APPLICANT REPORT FOR		
CHAD A WOMACK		
NIAID		
NIH Loan Repayment Programs		
OVERVIEW	Type of Application:	Renewal
	Type of LRP:	Intramural
	NIH LRP Program Name:	AIDS Research LRP
	Name of NICHD site selected	ResearchCenterName
	Intended number of years at this laboratory/site	ResearchYears
NAME	Applicant's Name	Chad A Womack
	Other Names Used	
PERMANENT (HOME) CONTACT INFORMATION	1200 N. Veitch St.	
	#1006	
	Arlington, VA 22201 +	
	Telephone Number	703-524-2752 x
	Fax Number	3014802771
	Email Address	cwomack@mail.nih.gov
CURRENT (WORK OR SCHOOL) CONTACT INFORMATION	Position Title	research fellow
	Organization	NIAID
	Department/Section	Viral Pathogenesis
	Division/School	VRC
	Address	NIH/VRC
	40 Convent Dr., 40/2608B	
	Bethesda, MD 20892 +3005	
	Telephone Number	301-594-8555 x
	Fax Number	3014802771
	Email Address	cwomack@mail.nih.gov
Please communicate with me at my <u>Current</u> Address.		
EDUCATION & TRAINING	Baccalaureate Degree	
	Degree Earned	
	Year Awarded	
	Major/Field of Specialization	
	Conferring Institution	

NATIONAL INSTITUTES OF HEALTH LOAN REPAYMENT PROGRAMS
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

	Medical Degree				
	Degree Earned				
	Year Awarded				
	Major/Field of Specialization				
	Conferring Institution				
	Specialty				
		Board Eligible			
		Board Certified			
	Subspecialty				
		Board Eligible			
		Board Certified			
	Highest Graduate Degree				
	Degree Earned				
	Year Awarded				
	Major/Field of Specialization				
	Conferring Institution				
	<u>Dissertation Abstract</u>				
	Graduate Degree (2)				
	Degree Earned				
	Year Awarded				
	Major/Field of Specialization				
	Conferring Institution				
	Graduate Degree (3)				
	Degree Earned				
	Year Awarded				
	Major/Field of Specialization				
	Conferring Institution				
PRINCIPAL INVESTIGATOR / PROGRAM DIRECTOR'S CONTACT INFORMATION	Barney S. Graham				
	Position Title	Senior Investigator			
	Organization	Vaccine Research Center			
	Department/Section	National Institute of Allergy and Infectious Diseases			
	Division/School	National Institutes of Health			
	Address	Bldg. 40, Room 2502			
		40 Convent Drive, MSC 3017			

NATIONAL INSTITUTES OF HEALTH LOAN REPAYMENT PROGRAMS
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

		Bethesda, MD 20892 +3017
	Telephone Number	301-594-8468 x
	Fax Number	301-480-2771
	Email Address	bgraham@mail.nih.gov

Personal Statement—career goals and aspirations

My long-term career goal is to be a tenured investigator either at the NIH or a major academic research university, working in the area of molecular epidemiology and pathogenesis of infectious diseases. My immediate career goals are to continue to develop an independent and creative research program in infectious disease research, towards obtaining a tenure-track research position.

Over the course of my matriculation through the HIV/AIDS research field, each experience has helped to shape and focus my interests and outlook concerning the direction of my career interests. During my graduate school training experience, I developed a set of laboratory bench skills that have enabled me to design and execute in vitro experiments. In addition, my graduate experience provided an academic foundation upon which I learned the theoretical basis of infectious disease research and its role in public health. As a post-doctoral research fellow at the Harvard AIDS Institute, Harvard School of Public Health, I gained an appreciation for the powerful connection between basic science and laboratory research, and in-country, epidemiological fieldwork. I learned first-hand the complexities and challenges that developing countries present in achieving a set of proposed specific aims, while conducting a self-initiated, Fogarty-funded project entitled, "Molecular Epidemiological Investigation of HIV-1 Subtypes in Mumbai, India". Since being a research fellow in the Laboratory of Immunoregulation, at the NIH/NIAID, under the direction of Dr. Anthony Fauci, I have learned to sharpen my skills as an investigator in research methodology. This has included deconstructing complex observations to identify underlying research questions and hypotheses, and developing a research plan to address those hypotheses. As a research fellow, I have utilized those skills and have initiated projects that focus on the continuing challenges that HIV-1 mutation and evolution pose for understanding the underlying immunopathogenic mechanisms of HIV disease and antiretroviral therapy.

My long-term research and academic objectives are to maintain a global public health perspective on HIV/AIDS and infectious disease research, while focusing the in vitro laboratory research on identifying targets for novel therapeutics and vaccines. Accordingly, I would like to continue to conduct basic science as a foundation in the approach to solving major problems in infectious disease, and to develop and utilize new technologies to identify targets for rational drug and/or vaccine design in the efforts to ameliorate morbidity and mortality due to infectious pathogens such as HIV and Hepatitis C. I am greatly appreciative for the opportunity that the HIV/AIDS Loan Repayment Program has provided as it has helped to clarify my career goals, as well as my long-term research and academic objectives.

Dr. Womack's work plan will be designed to promote development of both basic and applied research agendas. His focus will be on characterizing the viruses and specificity of the immune responses of patients infected with non-clade B viruses. He will work closely with me on these projects with formal weekly one-on-one sessions in addition to weekly lab meetings. In addition, the proximity of the lab to my office will promote daily ad hoc interactions around the progress on scientific projects. Dr. Womack will also interact frequently with other investigators in the VRC. Dr. Richard Koup, Chief of the Human Immunology Laboratory, Dr. John Mascola, Chief of the BL3 Laboratory Core, and Dr. Mario Roederer, Chief of the Flow Cytometry Core, will be collaborators on this project. Dr. Womack will be expected to publish his findings in peer-reviewed scientific journals, and will be mentored through this process. In addition, he will present data at regional, national, and international scientific meetings with preparation under my supervision.

Dr. Womack will have the opportunity to develop his teaching skills as he will have responsibility for supervising some of the technical staff, graduate students, post-doctoral fellows, and visiting scientists in the laboratory.

Research Plan

Title: Characterization of Antiviral Immune Responses in a Cohort of HIV-1 non-B Infected Patients

Role: Principal Investigator

Responsibilities:

My responsibilities as principal investigator include articulating specific research questions and hypotheses, establishing an experimental approach to adequately address those hypotheses, and implementing the research plan through in vitro experimentation.

Background:

As of 2000, UNAIDS estimates approximately 36 million people have been infected with HIV of which some 22 million have already succumbed to AIDS. The global spread of HIV/AIDS has not, however, been uniform with Sub-Saharan Africa having the majority of HIV/AIDS cases, and now India and China each experiencing burgeoning epidemics. The uneven geographic spread of HIV/AIDS has been mirrored by the emergence and spread of genetically diverse viral subtypes or clades. Recent molecular epidemiological studies indicate subtype B, once the predominant strain in the early phases of the HIV/AIDS pandemic, has ceded in prevalence to subtype C, which now predominates the HIV incidence in Sub-Saharan Africa, China, India and some parts of Brazil. In the absence of knowing what impact subtype diversity has on either HIV/AIDS immunopathogenesis or antiretroviral drug efficacy, and given that most antiretroviral drugs have been designed and tested against subtype B virus, it is hypothesized that subtype differences may influence intrinsic biological properties including cytopathicity and maybe an important factor in determining antiretroviral drug efficacy. Therefore, the focus of this research will be to address the potential impact of HIV-1 subtype diversity on antiviral immunity and immunological control. This work will include analysis of neutralizing antibody and CD8+ CTL antiviral responses in a cohort of African immigrant patients.

Specific Aims:

Utilizing a panel of whole blood and peripheral blood mononuclear cell (PBMC) samples obtained from antiretroviral naïve, HIV-1 non-B infected patients, the following specific aims are envisioned for this research project:

- To determine the baseline immunological profile of a panel of whole blood and PBMC samples obtained from HIV-1 non-B infected patients.
- To characterize the CD8+ CTL response to peptide pools representing consensus sequences for HIV-1 subtypes A, B and C.
- To assess the ability of plasma to neutralize autologous and heterologous primary isolates obtained from non-B infected patient cohort.

Research Accomplishments

During the past year, I have completed the following experiments:

- Replication kinetics of a subset of subtype C primary isolates from India on anti-CD3/IL-2 stimulated and resting, unstimulated PBMC.
- In vitro CD4+ T lymphocyte cytopathicity for a subset of subtype C primary isolates.
- 1 set of experiments to assess the susceptibility of subtype C viruses against beta-chemokine and beta-chemokine agonist inhibition in vitro.
- Design of PCR primers and successful nested PCR amplification of several gp120 envelopes of these viruses.
- Assessment of drug resistance phenotypes and genotypes of a subset of primary isolates and plasma from antiretroviral naïve patients infected with subtype C viruses (manuscript in preparation).
- Development of a project to define immunologic parameters of patients infected with HIV-1 non-B subtypes in a cohort of African immigrants.

Major research findings include:

- Subtype C primary isolates replicate at low titres ($TCID_{50} < 10^3$ /ml), yet deplete CD4+ T lymphocytes efficiently in vitro
- Significant variation exists in biological phenotypes among subtype C primary isolates obtained from recent seroconvertors, including replication kinetics, susceptibility to inhibition by beta-chemokines and beta-chemokine analogs
- While considerable variation exists in the susceptibilities to different classes of antiretroviral drugs (protease and nucleoside/non-nucleoside reverse transcriptase inhibitors), preliminary findings indicate a slight increase in susceptibility among plasma samples obtained from antiretroviral naïve subtype C infected patients relative to subtype B counterparts (antiretroviral naïve, subtype B infected plasma).

Future Directions:

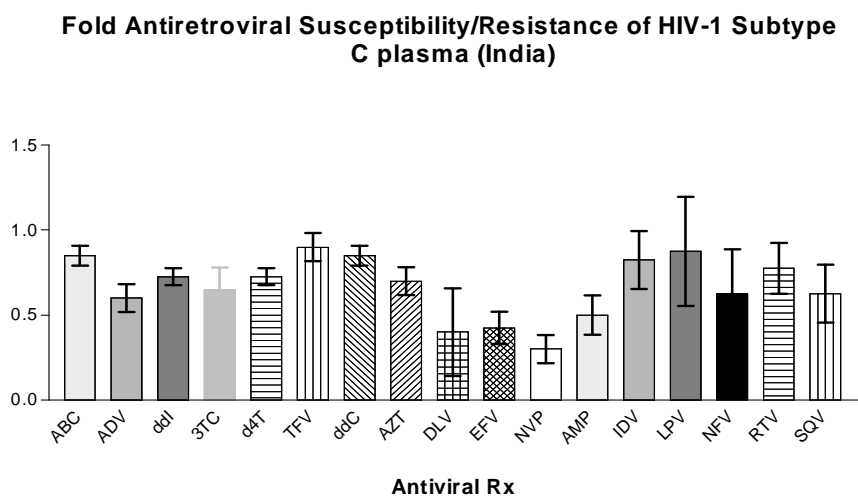
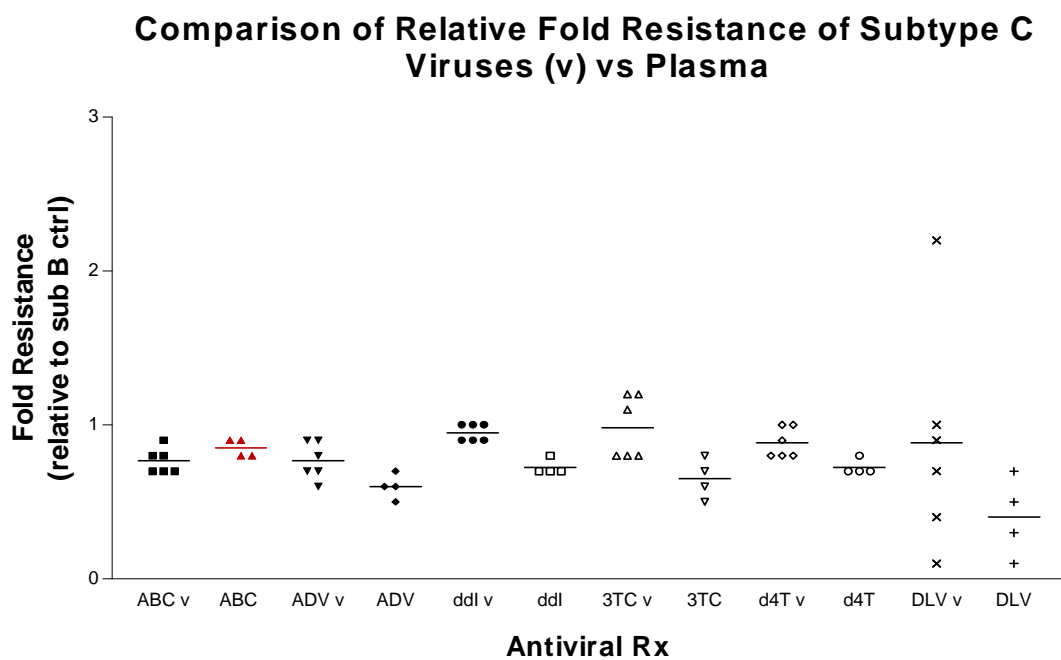
- We will be following up our kinetic studies to look more closely at the role of TNF-alpha in the replication of these viruses on unstimulated PBMC
- I am interested in looking at the relationship between beta-chemokine inhibition, gp120 genotype and the ability of inactivated virions to signal through CCR5.
- I have some interest in looking at in vitro evolution of gp120 in response to beta-chemokine inhibition with the idea of determining genotype-phenotype relationships.
- We are also interested in further developing our current understandings of immunological control of HIV in HIV-1 infected patients who are infected with non-B subtypes (African immigrant cohort).

Abstracts Presented

- HIV-1 non-B subtypes are similar to HIV-1 subtype B in that coreceptor specificity determines cytopathicity in human lymphoid tissue infected ex vivo. **Chad Womack**, Nina Malkevich, Punita Pandya, Jean-Charles Grivel, and Anthony S. Fauci and Leonid Margolis. 2001 Keystone HIV/AIDS Pathogenesis and Vaccine Development Conference, Keystone, CO
- Identification of Non-B Recombinant HIV-1 Subtypes in Rural Georgia. **Chad Womack**, William Roth, Cheryl Newman, J. Peter Rissing, Roger Lovell, David Haburchak, Max Essex, and V. Craig Bond. 2000 International Meeting of the Institute of Human Virology. September 10-15, 2000
- Isolation and Phenotypic Analysis of Primary Isolates of HIV-1 subtype C from Seroconvertors in India **Womack, C.A.**, Kulkarni, S.S., Pandya, P., Jackson, A.J., Paranjape, R.S., Mehendale, S. M. Bollinger, R. and Fauci, A.S. 2000 International Meeting of the Institute of Human Virology. September 10-15, 2000

Publications (submitted or in preparation):

1. Malkevitch, N., **Womack, C.**, Grivel, J.C., Pandya, P., Fauci, A.S., and Margolis, L. HIV-1 non-B subtypes are similar to HIV-1 subtype B in that coreceptor specificity is a cytopathic determinant in human lymphoid tissue infected ex vivo (submitted).
2. **Womack, C.**, Paxinos, E., Petropoulos, C., Kulkarni, S., Sahni, S., Shastri, J., Bollinger, R., Pandya, P., Rapuano, T., Fauci, A.S., and Paranjape, R.S. Susceptibility to Antiretroviral Drugs Among Antiretroviral Naïve Patients Infected with Subtype C Viruses (in preparation).
3. Kulkarni, S., **Womack, C.**, Bollinger, R., Pandya, P., Rapuano, T., Fauci, A.S., and Paranjape, R.S. Replication Kinetics and Cytopathicity of HIV-1 Subtype C Primary Isolates from Seroconvertors in India (in preparation).
4. **Womack, C.**, Kulkarni, S., Morris, L., Bollinger, R., Pandya, P., Page, H., Fauci, A.S., and Paranjape, R.S. In vitro Susceptibility to Beta-Chemokine and Beta-Chemokine Analog Inhibition Among HIV-1 Subtype C Primary Isolates from Seroconvertors and AIDS Patients. (in preparation).



Office of the Director, NIAID
31 Center Drive MSC 2520
Building 31 Room 7A03
Bethesda, MD 20892-2520
301/496-2263

April 29, 2002

Marc Horowitz, J.D.
Director, Office of Loan Repayment and Scholarship
National Institutes of Health
2 Center Drive, Room 2E30
Bethesda, MD 20892

Dear Marc,

I strongly support Dr. Chad Womack's participation in the Loan Repayment Program. Dr. Womack is currently a Unit Head in the Immunopathogenesis Section of the Laboratory of Immunoregulation, NIAID. Dr. Womack is involved in several important aspects of HIV pathogenesis and response to therapy, particularly in terms of the international epidemic.

Dr. Womack's major focus at present is the effects of HIV subtypes, in particular those responsible for disease in Africa and India, on virologic and immunologic parameters of the virus itself as well as the response of the different sub-types to antiretroviral therapy. In collaboration with researchers from NCI, Dr. Womack has demonstrated that HIV non-B subtypes are similar to HIV B subtypes in that coreceptor specificity determines cytopathicity *in vitro*. In addition, Dr. Womack has demonstrated that HIV non-B and B subtypes respond similarly to antiretroviral therapy *in vitro*. Dr. Womack's current work is focused on immunological aspects of HIV subtypes including interactions with beta-chemokines and TNF-alpha. These investigations may have important implications for developing global treatment strategies for HIV.

Dr. Womack has developed several laboratory techniques to assist in his investigations. In addition, he has developed important collaborations in Africa and India. Recently, he has cultivated a relationship with a clinic in Atlanta, Georgia to study the virologic and immunologic parameters of non-B HIV subtypes in a cohort of immigrants from Africa. Dr. Womack has contributed to the laboratory and I recommend him highly for participation in the Loan Repayment Program.

Sincerely,

Anthony S. Fauci, M.D.
Director,
National Institute of Allergy and
Infectious Diseases

Chad Womack, Ph.D.

Date of Birth	March 19, 1966
Place of Birth	Philadelphia, Pennsylvania
Home Address	1200 N. Veitch St., #1006 Arlington, VA 22201 (703) 524-2752
Office Address	Vaccine Research Center National Institutes of Health National Institutes of Allergy and Infectious Diseases Viral Pathogenesis Section 40 Convent Dr., 40/2608-B Bethesda, MD 20892-3017 Lab/Office: (301) 594-8555 Fax: (301) 480-2771 email: cwomack@mail.nih.gov
Social Security #	Furnished upon request
Citizenship	U.S. Citizen
Family	Married; no dependents
Education	
1992-1998	Ph.D. Biomedical Sciences Morehouse School of Medicine (Atlanta, Georgia) Department of Biochemistry Thesis: Molecular Epidemiology of HIV/AIDS in Rural Georgia
1984-1988	B.S., Biology Morehouse College (Atlanta, GA)
Dissertation	
	Molecular Epidemiology of HIV/AIDS in Rural Georgia (Thesis Advisors: V.Craig Bond, Ph.D., Biochemistry and Max Essex, D.V.M., Ph.D., Morehouse School of Medicine/Harvard School of Public Health, Dept. of Immunology and Infectious Diseases)
Honors & Awards	
1992-1997	NIGMS/M.A.R.C. Pre-Doctoral Fellow
1988	Morehouse College Cum Laude
1988	Honors in Biology
1984-1988	Undergraduate Minorities Access to Research Careers (M.A.R.C.) Scholar

Updated 11/7/2002

Academic Appointments

2002-present	Vaccine Research Center Research Fellow National Institutes of Health National Institutes of Allergy and Infectious Diseases Viral Pathogenesis Section
1999- 2002	National Institutes of Health National Institute of Allergy and Infectious Diseases Laboratory of Immunoregulation Immunopathogenesis Section Research Fellow Bethesda, MD
1997-1998	Harvard AIDS Institute Harvard School of Public Health Dept. of Immunology and Infectious Diseases Research Associate Boston, Massachusetts
1993-1997	Harvard AIDS Institute Harvard School of Public Health Dept. of Immunology and Infectious Diseases Research Fellow Boston, Massachusetts
1992-1994	Centers for Disease Control and Prevention National Centers for Infectious Diseases Division of HIV/AIDS Visiting Scientist Atlanta, Georgia
1989	Wistar Institute of the University of Pennsylvania Undergraduate Research Fellow Philadelphia, Pennsylvania

Industry Fellowships

1990-92	Smith, Kline & Beecham Dept. of Molecular Biology King of Prussia, Pennsylvania
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Active Research Support

Intramural Research

National Institutes of Health
National Institutes of Allergy and Infectious Diseases
Viral Pathogenesis Laboratory
Vaccine Research Center

Updated 11/7/2002

Previous Research Support

Fogarty International Fellowship (Supplemental)

Molecular Epidemiology of HIV-1 Subtypes in Mumbai, India
09/98-09/99 Total Direct Costs = \$50,000.00

Centers for Disease Control and Minority Health Professions Foundation

“Molecular Analysis of the Evolution of HIV-1 Quasispecies in Patients Undergoing AZT Therapy”
Co-PI: Chad Womack and V.Craig Bond, Ph.D.
09/95 through 09/98 (Total Direct Costs \$120,000)

Teaching Experience:

1996-1998	Guest Lecturer “ <i>HIV/AIDS Global Epidemiology</i> ” University of Massachusetts-Boston
1990	Instructor General Biology Course and Laboratory Morehouse College

Publications

1. *Malkevitch, N., ***Womack, C.**, Grivel, J.C., Pandya, P., Fauci, A.S., and Margolis, L. HIV-1 non-B subtypes are similar to HIV-1 subtype B in that coreceptor specificity is a cytopathic determinant in human lymphoid tissue infected ex vivo. November, 2001 *Journal of Virology* 75(12): 10520-10522 .
2. SS Kulkarni*¹, **CA Womack***², P Pandya², T Rapuano², JU Smith², RS Paranjape¹, TS Quinn³, AS Fauci², and RC Bollinger³ Biological Characterization of HIV-1 Subtype C Primary Isolates Associated with Early Infection in India. National AIDS Research Institute Annual Report 2001.
3. **Chad Womack**, William Roth, Cheryl Newman, J. Peter Rissing, Roger Lovell, David Haburchak, Max Essex, and V. Craig Bond. Identification of Non-B Recombinant HIV-1 Subtypes in Rural Georgia 2001 *Journal of Infectious Diseases* 181(1): 138-142.
4. Choudhury, S., Montano, M., **Womack, C.**, Maniar, JK, Saple, DG, and Essex, M. Phylogenetic Analysis of the HIV-1 LTR Prevalent in India Reveals an Unusual Duplication with AP-1 Binding Activity. 2000 *Journal of Human Virology*. 3(1):35-43, 2000 Jan-Feb..
5. Aikhionbare FO, Newman C, **Womack C**, Roth WW, Stringer HG Jr, Bond VC. Characterization of a third CCR5 amplicon from CCR5-delta32-heterozygous HIV-1-infected individuals. *AIDS*. 1999 Aug 20;13(12):1585-6.
6. Aikhionbare FO, Newman C, **Womack C**, Roth W, Shah K, Bond VC. Application of random amplified polymorphic DNA PCR for genomic analysis of HIV-1-infected individuals. *Mutation Research*. 1998 Nov;406(1):25-31.
7. Roth, W., **Womack, C.**, Newman, C., Essex, M., and Bond V. C. Examination of HIV-1 GP120-V3 Sequences in Patients From Rural Georgia. *AIDS Research & Human Retroviruses*. 1999. 15(4):399-403.
8. Roth, W. W., P. N. Levett, C. P. Hudson, T. C. Roach, **Womack, C.** and V. C. Bond. 1997. HIV type 1 envelope sequences from seroconverting patients in Barbados. *AIDS Research & Human Retroviruses*. 13:1443-6.

9. **Womack, C.**, C. Newman, J. P. Rissing, R. Lovell, D. Haburchak, W. Roth, M. Essex, and V. C. Bond. 1997. Epidemiology of HIV-1 infection in rural Georgia: demographic trends and analysis at the Medical College of Georgia. *Cellular & Molecular Biology*. 43:1085-90.
10. **Womack, C.**, Newman, C., Roth, W., Essex, M., and Bond, V.C. Increasing Frequency of Heterosexually Acquired Infections in Rural Georgia: Is the Rural South the Next Major Epicenter. *Harvard Journal of Minority Public Health Spring/Summer Issue 1998*.

(submitted or in preparation)

1. SS Kulkarni^{*1}, **CA Womack**^{*2}, P Pandya², T Rapuano², JU Smith², RS Paranjape¹, TS Quinn³, AS Fauci², and RC Bollinger³ Biological Characterization of HIV-1 Subtype C Primary Isolates Associated with Early Infection in India (in preparation).
2. **Womack, C.**^{*}, Kulkarni, S.^{*}, Morris, L., Bollinger, R., Rapuano, T., Page, H., Fauci, A.S., and Paranjape, R.S. In vitro Susceptibility to Beta-Chemokine and Beta-Chemokine Analog Inhibition Among Primary Isolates from Seroconvertors and AIDS Patients Infected With HIV -1 Subtype C . (in preparation).

****both authors contributed equally to the work***

Abstracts/Posters

Mechanisms of pathogenesis of CCR5- and CXCR4-using HIV-1 in human lymphoid tissue.

J C Grivel, Y Ito, **C Womack**, P Lusso, L Margolis

9th International HIV/AIDS Conference

Barcelona, Spain

HIV-1 non-B subtypes are similar to HIV-1 subtype B in that coreceptor specificity determines cytopathicity in human lymphoid tissue infected ex vivo.

Chad Womack^{*}, Nina Malkevich^{*}, Punita Pandya, Jean-Charles Grivel, and Anthony S. Fauci and Leonid Margolis.

2001 Keystone HIV/AIDS Pathogenesis and Vaccine Development Conference

Keystone, CO

Identification of Non-B Recombinant HIV 1 Subtypes in Rural Georgia

Chad Womack, William Roth, Cheryl Newman, J. Peter Rissing, Roger Lovell, David Haburchak, Max Essex, and V. Craig Bond.

2000 International Meeting of the Institute of Human Virology

September 10-15, 2000

Isolation and Phenotypic Analysis of Primary Isolates of HIV-1 subtype C from Seroconvertors in India

Kulkarni, S.S., **Womack, C.A.**, Pandya, P., Jackson, A.J., Paranjape, R.S., Mehendale, S. M.Bollinger, R. and Fauci, A.S.

2000 International Meeting of the Institute of Human Virology

September 10-15, 2000

Molecular Epidemiology of HIV-1 at the Medical College of Georgia

Chad Womack, William Roth, Cheryl Newman, J. Peter Rissing, Roger Lovell, David Haburchak, Max Essex, and V. Craig Bond

5th International RCMI AIDS Symposium November 3-5, 1996

Rio Mar, Puerto Rico

Epidemiology of HIV/AIDS in Rural Georgia

Chad Womack, William Roth, Cheryl Newman, J. Peter Rissing, Roger Lovell, David Haburchak, Max Essex, and V. Craig Bond

Institute of Human Virology Annual Conference, September 15-20, 1997

Institute of Human Virology

Baltimore, Maryland

Epidemiology and Phylogenetics of HIV-1 in Rural Georgia

Chad Womack, William Roth, Cheryl Newman, J. Peter Rissing, Roger Lovell, David Haburchak, Max Essex, and V. Craig Bond

Institute of Human Virology Annual Conference, September 15-20, 1997

Institute of Human Virology

Baltimore, Maryland

**both authors contributed equally to the work*

Seminar Presentations/Lectures

“Antiretroviral Drug Resistance in HIV-1 Subtype C”

2001 HIV Drug Resistance Think Tank Meeting, NCI-Frederick, MD February 27, 2001

“Molecular Epidemiology and Immunopathogenesis of HIV-1 non-B Subtypes”

Y.R.G. Care Chennai, India December 7, 2000

“Characterization of HIV-1 Subtype C from Indian Seroconvertors”

Gladstone Institute, UCSF San Francisco, CA July 28, 2000

“Global Evolution of HIV-1 and the Rapid Emergence of Subtype C in India”

Immune Response Corporation Carlsbad, CA February 4, 2000

“Molecular Epidemiology of Subtype C in India”

Wadia Hospital for Children Mumbai, India November 14, 1999

“Evolution of the Global AIDS Pandemic”

G.S. Seth Medical College, K.E.M. Hospital Mumbai, India April 12, 1999

Other Activities

Phelps-Stokes Fund—Washington, D.C.

Center for Diversity in Health Research (CDHR)—Atlanta, GA

Member, Board of Directors

National Clearinghouse of Opportunities for Minorities in the Biomedical Sciences and Research (NCOMBSR)—Washington, D.C.

Co-Founder (2002)

Global Links Project, Inc.- Founding President & Chairman (incorporated June, 2000 in Arlington, VA)

- Global Links Project, Inc. is an international public health consultant agency, whose primary mission is to connect public health professionals worldwide that might not otherwise have opportunities to interact.

Updated 11/7/2002

References Furnished Upon Request

Updated 11/7/2002

Date Printed: 1/31/2003

The Vaccine Research Center is a highly interactive group of investigators with diverse backgrounds in basic and clinical virology and immunology. In addition to the state-of-the-art facilities and equipment available in the VRC, the collaborative nature of the VRC will provide an intellectual environment that will foster the development of novel ideas and discoveries. The VRC mandate and goal to develop an HIV vaccine provides a forum for routine meetings across disciplines and creates a rich environment for learning. In addition, weekly lab meetings are held at which individual research is presented and recent publications relevant to our specific scientific interests are discussed. There will be mandatory training at the weekly VRC seminar that provides access to investigators working on all aspects of HIV vaccine development, immunology, pathogenesis, and animal modeling. Relevant seminars and training sessions on NIH campus will be posted in the VRC and attendance encouraged. Collaborations with investigators from other NIH laboratories, universities, industry, and international settings will provide additional opportunities for the exchange of ideas and information.

FF Principal Investigator/Program Director (Last, first, middle):

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel in the order listed on Form Page 2.

Photocopy this page or follow this format for each person.

NAME	Barney Scott Graham	POSITION TITLE: Senior Investigator Chief, Viral Pathogenesis Laboratory and Clinical Trials Core, VRC, NIAID, NIH
------	---------------------	--

EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training.)

INSTITUTION AND LOCATION	DEGREE (if applicable)	YEAR(s)	FIELD OF STUDY
Rice University, Houston, TX	BA	1975	Biology
University of Kansas, Kansas City, KS	MD	1979	Medicine
Vanderbilt University, Nashville, TN	PhD	1991	Microbiology& Immunology

RESEARCH AND PROFESSIONAL EXPERIENCE: Concluding with present position, list, in chronological order, previous employment, experience, and honors. Include present membership on any Federal Government public advisory committee. List, in chronological order, the titles, all authors, and complete references to all publications during the past three years and to representative earlier publications pertinent to this application. If the list of publications in the last three years exceeds two pages, select the most pertinent publications. **DO NOT EXCEED THREE PAGES.**

Professional Positions

1979-1982	Intern and Resident in Internal Medicine, Vanderbilt University School of Medicine, Nashville, TN
1982-1983	Chief Resident in Internal Medicine, Nashville General Hospital, Nashville, TN
1983-1984	Chief Resident in Internal Medicine, Vanderbilt University Hospital, Nashville, TN
1984-1986	Fellow in Infectious Diseases, Vanderbilt University School of Medicine
1986-1992	Assistant Professor of Medicine, Vanderbilt University School of Medicine
1992-1996	Associate Professor of Medicine, Vanderbilt University School of Medicine
1992-1999	Assistant Professor of Microbiology and Immunology, Vanderbilt University School of Medicine
1996-2001	Professor of Medicine, Vanderbilt University School of Medicine
1999-2001	Associate Professor of Microbiology and Immunology, Vanderbilt University School of Medicine
2000-present	Senior Investigator, Vaccine Research Center, National Institutes of Health, Bethesda, MD

Awards and Other Professional Activities - Magna Cum Laude; Phi Beta Kappa; Alpha Omega Alpha (junior year); Roscoe Falls Morton Award to the outstanding senior student in Internal Medicine, Wichita Campus, University of Kansas School of Medicine, 1979; Hugh J. Morgan Chief Resident of Medicine, 1983-1984; American College of Physicians (ACP) Teaching and Research Scholar, 1985-1988; Fellow in the ACP, 1989; member of the NIAID HIV Research and Development Vaccine Working Group, 1992-1995; elected to SSCI, 1993; The Grant Liddle Research Appreciation Award, 1993; elected to ASCI, 1996, Co-author for Subspecialty MKSAP Infectious Diseases-II, 1996-1998, elected to Sigma Xi, 1997, elected to Fellowship in American Academy of Microbiology, 1998, elected to Association of American Physicians, 2002.

Federal Grant Support During Last 5 Years

NIH UO1-AI-46747, "HIV Vaccine Trials Network Leadership Group", Co-Investigator, 10%, 9/1/99-8/31/2004.
 NIH RO1-AI-33933-05, "RSV-induced patterns of cytokine expression and disease", Principal Investigator, \$194,534 year 05 total direct costs, 3/1/99-2/29/2004. (Transferred to Yi Wei Tang, MD, PhD, August 2000).
 NIH RO1-AI-45512-01, "The effect of respiratory syncytial virus on allergic airway disease", Principal Investigator, \$211,564 year 01 total direct costs, 3/1/99 - 2/29/2004. (Transferred to James R. Sheller, MD, August 2000).
 NIH UO1-AI-47985, "HIV Vaccine Clinical Trials Units", Principal Investigator, \$1,438,628 year 1 total direct costs, 6/1/2000-5/31/2005. (Transferred to Peter F. Wright, MD, August 2000).

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